

ABSTRACT OF THE DISCLOSURE

A method for forming a semiconductor device includes forming a conductive bump on one or more of bond pads of a semiconductor substrate of a semiconductor wafer. A top or uppermost portion of each conductive bump is then planarized. The exposed portions of an active surface of the semiconductor wafer are filled with a layer of encapsulation material. The conductive bumps are reformed to their preplanarized shape and the semiconductor wafer is then diced to form singulated semiconductor dice. A preferred method of the invention also includes placing each singulated die in a mold to complete a second encapsulation step wherein a layer of encapsulation material is formed on the back surface or, alternatively, on the back and side surfaces of the semiconductor die in order to encapsulate the back, or the back and sides, of the semiconductor die. The second encapsulation step can be accomplished either before or after the conductive bumps are reformed to their preplanarized shape, the back surface of the semiconductor wafer is layered with the encapsulating material, or the semiconductor wafer is diced.

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